REMARKS

First, the Applicants would like to note with appreciation the courtesies extended by Examiner Michael Borin in granting a personal interview on July 19, 2004. During that interview, the Applicants' representative and Examiner Borin discussed the differences between the subject matter defined by the pending claims and the references cited in the Official Action, particularly the Goldberg reference. In particular, the Applicants' representative pointed out portions of the Goldberg reference that would lead one of ordinary skill away from the modification proposed in the Official Action. It was agreed that these arguments would be submitted in writing in response to the outstanding Official Action. The Applicants' representative also pointed out portions of the specification which provide written support for the limitations of Claims 61-64.

Claims 61-64 have been rejected under 35 U.S.C. §112, first paragraph. This rejection is respectfully traversed.

According to the Official Action, Claims 61-64 allegedly contain " . . . new matter not supported by the specification as filed" (pg. 3, numbered paragraph 3 of the Official Action). These claims, which depend from either of Claims 4 or 5, recite that the infection is cleared from at least one organ or tissue (Claims 61 and 63) or that treatment results in complete sterilization of the infection (Claims 62 and 64). Independent Claims 4 and 5 are directed to the treatment of infections in humans. The specification, however, also discloses the treatment of infections of organs as set forth in Claim 4 as well as infections resulting from prosthetic devices and catheters as set forth in Claim 5 (pg. 7 of the specification). The specification also discloses the administration of lysostaphin to humans in dosages "sufficient to eradicate" staphylococcal infections (see, for example, Abstract, pg. 28 of the Specification). Further, the dictionary

definition of eradicate is "to get rid of or remove completely".[1]

As set forth in the MPEP, the subject matter of a claim need not be described literally in order for the disclosure to satisfy the written description requirement (MPEP §2163.02). Rather, the standard for determining compliance with the written description requirement is whether the description clearly conveys to one of ordinary skill in the art that the applicant was in possession of the claimed invention (MPEP §2163.02). It is respectfully submitted that the disclosure of the *eradication* or complete removal of *staph* infections in humans together with the disclosure of the types of infections recited in independent Claims 4 and 5 provides support for the subject matter of Claims 61-64. In particular, it is respectfully submitted that the above disclosures would clearly convey to those skilled in the art that the applicant had possession of the subject matter of these claims. In view of the above, reconsideration and withdrawal of this rejection is respectfully requested.

Claims 4, 5, 32, 41-51, 56-59 and 61-66 were rejected under 35 U.S.C. §103(a) as allegedly being obvious over Zygmunt and Goldberg and Stark, and further in view of Oldham. This rejection, which appears on page 3, numbered paragraph 4 of the Official Action, is respectfully traversed.

The Official Action states that "there is only a marginal difference between dosages described as effective on dogs in Goldberg and dosage ranges as instantly claimed". The Official Action specifically makes reference to the dosages administered to dogs 4 and 5 of 31.6 and 35.4 mg/kg/day in Goldberg compared to the upper limit of 30 mg/kg/day set forth in Claims 4 and 5. The Official Action then asserts that "[a]bsent some teaching to the contrary . . . determination of particular ranges employed is within the skill of the ordinary worker as a part of the process of

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[1] The American Heritage Dictionary, 3rd Edition (1994).

normal optimization".

The Official Action therefore acknowledges that the dosage ranges recited in Claims 4 and 5 do not embrace any of the dosages administered to dogs listed as "well" or "improved" in Goldberg. Accordingly, the Official Action is apparently relying on the alleged closeness of the dosage range recited in the claims to the actual dosages administered to Dogs 4 and 5 which were included in the group of "well dogs" in Goldberg in reaching the obviousness determination. A *prima facie* case of obviousness can be established where a claimed range and a prior art range do not overlap but *are close enough that one skilled in the art would have expected them to have the same properties* (MPEP 2144.05(I)). As set forth below, however, Goldberg provides a clear teaching that the claimed dosage ranges do not achieve the same result but, rather, result in an unacceptable increase in resistant strains and eventual relapse of the dogs being treated. Therefore, one skilled in the art would not have expected dosages in the claimed range to have the same properties as the higher dosages administered to dogs in the "well" and "improved" groups in Goldberg.

In particular, Goldberg observed the development of lysostaphin resistant bacterial strains in the dogs being studied. According to Goldberg, "[t]he largest proportions of isolates found to be resistant were in three dogs receiving small repeated doses" of lysostaphin (pg. 52 of Goldberg). Referring back to Table 4 of Goldberg, which summarizes the lysostaphin resistance data, it can be clearly seen that the dogs being referred to in this excerpt from Goldberg include Dogs 7 and 10 which had 83 and 66 % lysostaphin resistant strains, respectively, after treatment (pg. 50 of Goldberg)[2]. It should be noted that Dogs 7 and 10 were administered dosages within

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[2] The fact that Goldberg is referring to Dogs 7 and 10 can be clearly seen from pg. 51 of that reference which recites as follows:

> "[t]he highest proportions of resistant isolates after treatment were found in four of five relapsed dogs. Three of these dogs had received the smallest

the range recited in Claims 4 and 5. Further, Goldberg postulates that "[t]he emergence of resistant isolates in these dogs may have resulted from repeated exposure to small amounts of enzyme" and that "[t]hese three dogs relapsed, perhaps as a result of the large proportion of resistant staphylococci, or perhaps because the small doses of enzyme were insufficient to control the infection" (pg. 52 of Goldberg). In view of the above, it is respectfully submitted that Goldberg teaches away from the invention as set forth in Claims 4 and 5. In particular, the disclosure in Goldberg that the administration of dosages of lysostaphin within the claimed range *to dogs* resulted in the development of resistant strains and to eventual relapse whereas higher dosages outside the claimed range resulted in recovery teaches away from the administration of lower dosages to humans as set forth in Claims 4 and 5. According to the MPEP, a *prima facie* case of obviousness may be rebutted by showing that the art, in any material respect, teaches away from the claimed invention. In re Geisler, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed. Cir. 1997). MPEP §2144.05(III). It is respectfully submitted that these clear teachings in Goldberg would lead one of skill in the art away from the methods of treatment defined by Claims 4 and 5 of the instant application. In view of the above, reconsideration and withdrawal of the rejections of Claims 4 and 5 is therefore respectfully requested.

Claims 32, 41-51 and 56-59 and 61-66 depend either directly or indirectly from Claims 4 or 5 and are therefore also patentable for at least the reasons set forth above with respect to Claims 4 and 5. Accordingly, it is respectfully requested that the rejection of Claims 32, 41-51 and 56-59 and 61-66 be reconsidered and withdrawn.

In addition, Claims 44-51 can be further distinguished from the references of record. In particular, these claims recite dosages of *up to 25 mg/kg/day*. These dosages are substantially

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repeated doses of enzyme."

lower than any dosage administered to a "well" or "improved" dog in Goldberg. In particular, the lowest dosage administered to a "well" or "improved" dog in Goldberg (*i.e.*, 31.6 mg/kg/day) is 26.4 percent greater than the upper limit of the recited dosage range. It is respectfully submitted that, in view of the above, the subject matter of these claims can be further distinguished from the cited references.

Claims 32, 42, 43, 46, 47, 50, 51, 54 and 55 were rejected under 35 U.S.C. §103(a) as being unpatentable over Zygmunt and Goldberg and Stark, and Oldham and further in view of Dixon. This rejection, which appears on page 5, numbered paragraph 5 of the Official Action, is respectfully traversed.

As set forth above, Zygmunt and Goldberg and Stark, and Oldham fail to teach or reasonably suggest the method as set forth in Claims 4 or 5. Claims 32 and 58 depend from Claims 4 and 5, respectively, and further recite administering a second antimicrobial agent selected from the group consisting of rifamycin, a glycopeptide, and combinations thereof. Dixon, however, is merely being relied upon for teaching the use of lysostaphin in combination with other anti-microbials. As such, Dixon does not remedy the above noted deficiencies of Zygmunt, Goldberg, Stark, or Oldham. Claims 32 and 58 are therefore patentable over the cited references for at least the reasons set forth above with respect to Claims 4 and 5, respectively. Claims 42, 46, 50, 54 and 56 depend from Claim 32 and Claims 43, 47, 51 and 59 depend from Claim 58. These claims are therefore also patentable over the cited references for at least the reasons set forth above with respect to Claims 32 and 58.

CONCLUSION

All rejections having been addressed by the present amendments and response, Applicants believe that the present case is in condition for allowance and respectfully request early notice to that effect. If any issues remain to be addressed in this matter which might be resolved by discussion, the Examiner is respectfully requested to call Applicants' undersigned counsel at the number indicated below.

Respectfully submitted,

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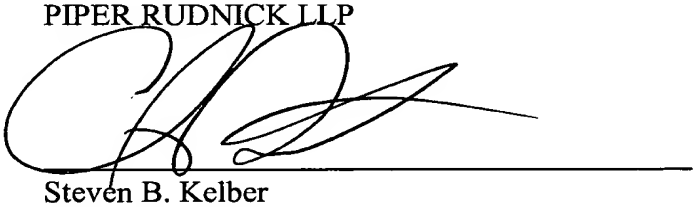

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